

X3-SUB

SUBMERSIBLE DATA LOGGER

- Supports most industry environmental sensors
- 4G LTE or Iridium satellite telemetry options
- Direct PC or cloud-based communications
- MCIL/MCBH wet-mate sensor and power ports
- Type 316 stainless steel housing

The **X3-SUB** Submersible Data Logger is a rugged, self-powered remote data logging system specifically designed for offshore use without fear of accidental flooding. The system is configured with three sensor ports for connection to most environmental sensors including multi-parameter sondes, water quality sensors, temperature strings, ADCP's, water level sensors, and weather stations. All connections are made using MCIL/MCBH wet-mate connectors, and the built-in sensor library automatically facilitates setup and configuration. Sensor data is recorded on common or independent schedules.

Unlike many data loggers, the **X3-SUB** can withstand extreme wave action, floods, periodic & long-term deployment underwater, and more. The Type 316 stainless steel housing is completely sealed and waterproof for long-term sub-surface data logging. When fitted for wireless remote communication, the cellular and satellite antennas are also waterproof. The **X3-SUB** can be powered by internal SLA battery, alkaline battery pack, or external 12 VDC power. The internal SLA battery is intended for use with the **CB-75** Data Buoy for continuous power via solar charging.

Using a USB adapter and **CONNECT** Software, users can configure the **X3-SUB** Data Logger for deployment, view live data, change settings, or troubleshoot. Optional integrated 4G LTE cellular or Iridium satellite telemetry modules offer 2-way remote communications via the **WQData LIVE** Web Datacenter. There, data is presented on a fully-featured and easy-to-use dashboard. Other features include automated reports, email/text alarms, public portal, API, and much more.

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specifications

Material	Type 316 stainless steel
Weight	12.0 lbs. (5.44kg)
Dimensions	5.5" (13.97cm) diameter with 7.25" (18.42cm) flange x 13.63" (34.62cm) height
Power Requirements	10.7 to 16.8 VDC +/-5% (reverse polarity protected)
Current Draw (Typical @ 12VDC)	Low power sleep: 350uA; Active: 45mA; Cellular transmitting: 300mA; Iridium satellite transmitting: 170mA
Peak Current	Power supply must be able to sustain a 500mA 1-second peak current (@ 12V)
Operating Temperature	-40°C to 70°C
Rating	IP68
User Interface	RS-485 to CONNECT Software via USB adapter; WQData LIVE Web Datacenter with optional wireless telemetry; Status beeps
Data Logging	8 MB non-volatile flash memory (6 MB available)
Data Processing	Parameter level polynomial equation adjustment; Basic & burst averaging (min, max, standard deviation, and raw data available)
Real Time Clock (RTC)	<30sec/month drift ¹ ; Auto-sync weekly ² ; Internal backup battery
Log Interval	User configurable from 1-minute (10-minute default) ³ ; Unique interval per sensor
Transmit Interval	User configurable from 5-minute (10-minute default)
Transmission Trigger	Time-based; Selective parameter upload option
Sensor Interfaces	RS-232 (3 Channels), SDI-12, RS-485, Pulse Count
Sensor Power	(2) independent switches from input supply ^{4,5}
Built-in Sensors	Temperature (-40° to 100°C, 0.016°C resolution, ±0.3°C accuracy); Humidity (0% to 100%, 0.03% resolution, ±4% accuracy from 5 to 95% RH & -20 to 70°C); Battery voltage; System current
Sensor Ports	(3) MCBH-8-MP for sensor interface (RS-232, RS-485, SDI-12, Power, GND)
Power Port	(1) MCBH-6-FS for power and communication (12V Solar In, Power Switch, RS-485 Host, GND)
Telemetry Options	4G LTE global cellular; Iridium satellite
Antenna Port	Type N female

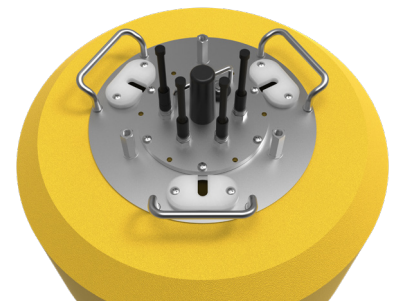
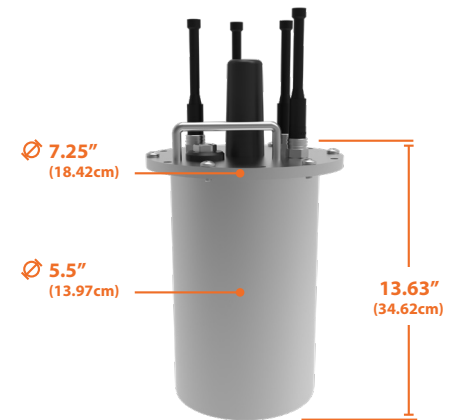
¹ Assumes 25°C operating temperature

² Requires the X3 to be connected to the internet

³ Minimum log interval dependent on sensor limitations and processing time

⁴ Cumulative concurrent current limit of all three channels is 2A

⁵ Logger power supply must be able to support current requirements of sensors



parts list

Part #	Description
X3-SUB	X3-SUB submersible data logger
X3-SUB-4G	X3-SUB submersible data logger with global 4G LTE cellular telemetry
X3-SUB-IR	X3-SUB submersible data logger with Iridium satellite telemetry
MCIL6MP-USB-DC	Direct connect USB PC cable with external 12VDC power adapter, X3-SUB & X3-SVS
CB-75	CB-75 data buoy with 1.5" instrument holes & (3) 4-watt solar panels, 75 lb. buoyancy
M550-F-Y	Solar marine light with flange mount & 1-3 nautical mile range, 15 flashes per minute, yellow
CB-ZA	Sacrificial zinc anode for CB-Series data buoys



tel: **937.426.2703**
8am to 5pm EST, Monday-Friday

fax: **937.426.1125**

NexSens Technology, Inc.
2091 Exchange Court
Fairborn, OH 45324
info@nexsens.com

nexsens.com